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ABSTRACT

Learning style is the way people concentrate on, internalize, and remember new and difficult knowledge or skills. It is composed of cognitive, motivational, and physiological elements that affect each person's ability to perceive, interact with, and respond to the learning environment. Extensive research documents the hypothesis that when students are taught through their learning strengths, they internalize more, retain it longer, and enjoy the process better than when they are taught through their weaknesses. Visits to learning styles programs in secondary schools throughout the United States revealed patterns of instruction that varied dramatically from conventional education. Learning styles instruction at the following schools is briefly described: (1) Corsicana High School, Texas; (2) Midwest High School, Wyoming; (3) Sacred Heart Academy, New York; (4) Robeson High School, Illinois; and (5) Cedar Crest High School, Pennsylvania. (MLF)

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Learning Styles: Key to Improving Schools and Student Achievement

Learning style is not simply a concept discussed by researchers and psychologists. It is a key to improving school climate and student achievement by recognizing that all people are not the same, and that all students do not learn in the same way.

Every professional journal and national convention has either featured or referred to the concept of learning styles during the past 10 years, and both the National Association of Secondary School Principals (NASSP) and the Association for Supervision and Curriculum Development (ASCD) have established networks of university and school practitioners to focus attention on the higher test scores, improved attitudes, and reduced number of discipline problems that result from teaching students through their individual learning style strengths.

Learning style is the way people concentrate on, internalize, and remember new and difficult knowledge or skills.¹ It is composed of cognitive, motivational, and physiological elements that affect each person's ability to perceive, interact with, and respond to the learning environment.²

The *cognitive* elements include analytic, global, spatial, discrimination, categorization, and processing characteristics.

Motivational variables incorporate individuals' proclivity for staying with a single task for a length of time (persistence) or preference for working at several tasks simultaneously, either alone, with one or more peers, or with a teacher, and perceptual preferences through which information is likely to be remembered.

Physiological elements refer to the time of day when the highest energy level is experienced, the temperature at which concentration is heightened, individual needs for mobility or passivity *while* learning, the degree of quiet versus sound most conducive to concentration, whether intake of food is necessary, and the physical design of furniture in which the body produces most effectively. When combined, these elements produce an individual's learning style.

Extensive research from more than 40 institutions of higher education document that when students (K-12) are taught through their learning style *strengths*, they internalize more, more easily, retain it longer, and enjoy the process better than when they are taught through their weaknesses.³

Several valid and reliable instruments are available for assessing students' learning styles, including the

3. Annotated bibliography. Jamaica, N.Y.: Center for the Study of Learning and Teaching Styles, St. John's University, 1987.

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1. R. Dunn and K. Dunn, *Teaching Students Through Their Individual Learning Styles: A Practical Approach* (Englewood Cliffs, N.J.: Prentice-Hall, 1978).

2. J.W. Keefe, "Assessment of Learning Style Variables: The NASSP Task Force Model," *Theory into Practice* 24(1985):138-43.

Traditional vs. Learning Styles

Krumboltz⁶ advocated that educators' primary goal should be to develop a love of lifelong learning among our students. He stated, however, that we do the reverse. He suggested that if we wanted to make students *hate* school, learning, and teachers, we could not design a system better than the one we have.

We *know* students learn differently from each other, but we require that they all learn exactly the same information in the same way, at the same time and pace, and in identical environments. When they have trouble, if they cannot measure up to a hypothetical norm, we label them disparagingly, notify their parents, and make them feel badly about themselves.

If we find them helping each other, we penalize them. When someone *does* achieve well, we ask under-achievers, "If that student can learn it, why can't you?" which effectively isolates and destroys the achiever. We apply consistent pressure to our youngsters by publicly questioning, correcting, and teaching in ways that appeal to *us* rather than to the variety of styles that exist in every room. And then we moan and blame parents, communities, the press, and society when adolescents revolt, become non-conforming, and refuse to continue their education.

It is easy to respond that this scenario does not reflect *your* school but, after observing hundreds of secondary school classes, Goodlad⁷ described the typical, predominant, traditional approach to instruction as follows:

The teacher sat at a desk watching the class, lecturing, or reading. Most students were writing, a few were stretching, and the remainder were looking contemplatively or blankly into space. The classrooms we observed were more like than unlike those in the old images so many of us share. Usually we saw desks or tables arranged in rows, oriented toward the teacher at the front of the room (p. 94)

Four elements of classroom life in the schools of our sample came through loud and clear from our data. First, the vehicle for teaching and learning is the total group. Second, the teacher is the strategic, pivotal figure in the group. Third, the norms governing the group derive primarily from what is required to maintain the teacher's strategic role. Fourth, the emotional tone is neither harsh and punitive nor warm and joyful; it might be described most accurately as flat (p. 108).

The classes described by Goodlad differ markedly from

the learning styles-based classes that we observed during visits to secondary schools throughout the United States in 1987.⁸ Rather, the schools capsuled in the Exempli Gratia section of this report can be characterized as follows:

- The vehicle for teaching and learning is the individual student. Patterns within the classroom reflect pairs, small groups, or individuals working alone or with a teacher or an aide. Those patterns change with specific tasks or youngsters' preferences.
- The student is the pivotal focus; all learning is compatible with the student's assessed learning style preferences.
- The room design is innovative, with formal and informal areas. Both bright and soft illumination often is available and student clothing reflects individual needs for warm or cool temperatures.
- The norm governing the group is that students assume a major responsibility for learning. Schools seek environmental, physical, sociological, and psychological conditions conducive to individual requirements.
- The emotional tone of the group is supportive because of extensive student involvement in the learning process.
- Students are acquiring the required knowledge, skills, and competencies through a wide variety of strategies: tactually (by illustrating, graphing, drawing, or charting; using computer technology or resources such as multi-part Task Cards or electroboards); visually (using books, films, videotapes, filmstrips, graphics, transparencies, puzzles, games); kinesthetically (by role playing, simulating, or dramatizing; conducting experiments; interviewing or working on job-related objectives); auditorially (through lectures, discussions, audiotapes, or peer-tutoring).

Exempli Gratia

During spring 1987, we visited learning styles programs in secondary schools throughout the United States and observed, interviewed, tape-recorded, and photographed students, teachers, and administrators in public, private, religious, and state-controlled institutions in rural, suburban, and urban communities.

Some of those schools are only in their second year of learning styles instruction; others have been involved for almost a decade. In most, the catalyst for change was the principal but, among principals, highly divergent administrative and leadership styles were apparent. In a few cases, the change agent was either a teacher or director.

The exemplary schools we observed revealed patterns of instruction that varied so dramatically from conventional education that they are included in an NASSP monograph, *Learning Styles: Quiet Revolution in American Secondary Schools*. The following are a few of the many excellent institutions we visited.

4. J.W. Keefe, J.S. Monk, C. Letteri, M. Languia, and R. Dunn, *Learning Style Profile* (Reston, Va.: NASSP, 1986).

5. R. Dunn, K. Dunn, and G.E. Price, *Learning Style Inventory*, (Lawrence, Kans.: Price Systems, 1975, 1979, 1981, 1984).

6. J.D. Krumboltz, "The Key to Achievement: Learning To Love Learning," *20/20 Conference* (Alexandria, Va.: AACD and ERIC/CAPS, 1987).

7. J.I. Goodlad, *A Place Called School: Prospects for the Future* (N.Y.: McGraw Hill, 1984).

8. R. Dunn and S.A. Griggs, *Learning Styles: Quiet Revolution in American Secondary Schools* (Reston, Va.: NASSP, 1988).

 Corsicana High School, West Highway 22, Corsicana, Tex. Contact: T.Y. Harp, principal, (214) 874-8211.

Corsicana High School tentatively moved toward learning styles instruction in 1985 when Principal T.Y. Harp attended learning styles sessions at the NASSP convention and became convinced that this approach was the vehicle for improving students' academic achievement.

The 1,300 students in Grades 9 through 12 are grouped homogeneously at three levels, including extended or enriched, college preparatory, and basic skills classes. Incoming freshmen are assessed for their learning style preferences and they and upperclassmen attend traditional and learning styles classes within a large, attractive complex.

Teachers are at differing stages of implementation, with some taking only initial steps to provide for individual, team, small-group, or teacher-oriented preferences and others addressing all dimensions of the process through Contract Activity Packages, Programmed Learning Sequences, and sophisticated Multisensory Instructional Programs.

The faculty members meet regularly to share teaching techniques, demonstrate small group procedures, and discuss resources that complement the learning style preferences of selected students. Based upon an analysis of students' perceptual strengths, increased numbers of teachers are developing tactual/kinesthetic materials for youngsters who previously achieved poorly.

One of the strengths of this faculty is that teachers have taught students to create their own hands-on resources to teach themselves when their teachers' styles are not matched with their own. The assistant principal reports significantly fewer disciplinary referrals from the classes of teachers using learning styles than from the teachers not involved with the program.

 Midwest High School, Box 368, Midwest, Wyo. 82643. Contact: Jeff Jacobson, principal, (307) 437-6571.

The abject poverty of this once-thriving AMOCO company town provides a stoic environment reminiscent of the worst of the Depression years.

It was within this atmosphere that Jeff Jacobson became principal in 1983. His dream to revitalize the school's educational program to nurture the community's children on a full-day, total basis was abetted by a Carnegie Foundation grant to investigate the impact of learning styles instruction on Midwest's students.

In 1984, after attending a one-week learning styles institute, Jacobson returned to the high school and explained the theory and related practices. He then tested his teachers for *their* styles. A few weeks later, he interpreted the teachers' profiles and demonstrated the valuable information provided by a reliable, valid learning style assessment.

Some classrooms appear traditional, but the instruction is not. Students may sit as they feel comfortable, study alone, in pairs, in small groups, or with the teacher. Instruction often is analytic and then global, or vice versa.

Some classrooms have been redesigned to respond to many youngsters' needs for a relaxed environment. In those, students sit wherever they feel comfortable—in bright or soft illumination, at desks or on lounge chairs, alone or with others—but the decorum and self-discipline is immediately apparent.

Several teachers converted the curriculum into style-responsive materials. Thus, many of the originally volunteering teachers use Contract Activity Packages for motivated, achieving students; tactual/kinesthetic resources for those experiencing difficulty; and Programmed Learning Sequences for essentially visual or tactual youngsters in need of structure.

Despite the fact that Midwest High School's teachers have five preparations daily and two to three cocurricular activities for which they are responsible, they show positive attitudes toward teaching through their individual strengths. The five-year average (1979-1984) of absences per year significantly decreased after the implementation of learning styles-based instruction. Overall achievement gains reflect that 73 percent of students are now on grade level or higher as measured by the Stanford Achievement test. Furthermore, Midwest students won 27 of the total 122 Wyoming Congressional Achievement Awards during the first four years of the program.

In a socioeconomic area where 70 percent of the parents never completed high school, the dropout rate was reduced to only two students in 1986.

 Sacred Heart Academy, 95 Fulton Ave., Hempstead, N.Y. 11550. Contact: Sister Mary Cecilia Giannitti, principal, (516) 483-2866.

The middle school within Sacred Heart Academy represents a small, private, religious-affiliated enclave in its ninth year of implementing a learning style approach to instruction. All nine faculty members serve as both teachers and counselors for their 54 racially and ethnically representative students.

The principal has completed her tenth year at the academy and, through a combination of inservice education and teacher selection, she has been able to provide fully for students' individual characteristics.

The school climate is marked by productivity and seriousness of purpose. There are no bells to signal the end of classes; at the conclusion of a session the students, clad in navy blue uniforms, move quickly to the next room.

Flexible scheduling and rotation of classes by cycle allow for all courses to be taught at some time during students' peak energy levels. Every classroom has both traditional chairs and desks and an informal, carpeted area in which students may work at ease. Over the years, teachers have developed multisensory resources for every unit of study and classrooms are gold mines of materials in the forms of games, charts, stories, models, manipulatives, and multi-media—many created by the students to demonstrate mastery of their assigned objectives.

Periodically, students are assessed to identify their learning styles. Results are shared with the youngsters, who are keenly aware of how their strengths operate during

instruction. Their self-knowledge translates into well-orchestrated instructional centers in which students choose their own resources, sociological groupings, and seating designs to respond to their personal preferences. The end result is a love of learning and pursuit of knowledge reflected in high student performance on the *Iowa Test of Educational Achievement*. (Mean language arts scores for grades 6-8 are at the 10.5 grade level.)

It is difficult to believe that many of Sacred Heart's students were underachievers and discipline problems in their former schools.

Robeson High School, 6835 South Normal Blvd., Chicago, Ill. Contact: Jacqueline Simmons, principal, (312) 723-1700.

In a neighborhood surrounded by burned-out, windowless, brick apartment buildings, Robeson High School serves 2,300 students who represent each of the financial levels of any urban center: wealth, middle and lower income, and poverty. However, in a south Chicago high school with adult "monitors" positioned periodically throughout the hallways, one anticipates many discipline problems. Quite the opposite is true.

Since the advent of Robeson's learning styles program, its students have conducted themselves with a dignity that reflects how they feel about themselves, their schooling, and their teachers.

Most students know their strengths and could describe exactly how they should study and do homework to capitalize on them. Many reported higher achievement than ever before because they had been taught how to teach themselves; others still depended on the tactual materials their teachers had created to facilitate their learning.

Jacqueline Simmons, the school principal, had become aware of the learning styles concept at an NASSP convention. She subsequently read about the theory and the research involving it, and decided to have her faculty learn about teaching through students' strengths. She arranged for inservice for her ninth-grade staff, required total participation, and subsequently released a master teacher to assist anyone who wanted help or demonstrations of learning styles techniques in their classes. Understanding is spreading from the ninth-grade teachers to those in the upper grades; students encourage uninvolved teachers to try it.

This is Robeson's second year in the program. What we observed was so well done that we encourage anyone involved in inner-city education to visit the site, talk with Simmons and her staff members, and visit the classes using learning styles strategies. They will revitalize your belief in the potential of education.

Cedar Crest High School, 105 East Evergreen Rd., Lebanon, Pa. 17042. Contact: Philip T. Kelley, science department, (717) 272-3178.

Nestled among the rolling hills of conservative Pennsylvania Dutch country, Cedar Crest High School provides an inspiring example of what concerned, energetic faculty members can produce when permitted to assume instructional leadership.

The district provided a summer workshop on learning styles (K-12) in 1986, but it was the high school faculty, under the leadership of science teacher Phil Kelley, who became excited about the concept and initiated testing of the school's 1,300 students. In the first year of implementation, 20 of its 65 teachers became involved; in its second year, that number doubled.

At the outset of the program, a bus driver complained that a student was bringing a radio to school with his teacher's permission—an effort to permit the few who worked better with music than in silence an opportunity to demonstrate improved grades through responsiveness to styles. The complaint was made directly to a board member, who told the superintendent, who questioned the principal, who terminated the use of radios and intake while learning.

The teachers attended the next board meeting, explained what they were doing, and cited the strong research base for permitting selected youngsters to hear music while learning (on earphones so that others would not be disturbed). The board ruled the concern an instructional decision, not a board policy matter.

The principal then permitted radios—with the individual teacher's permission—on an experimental basis. No problem developed during the entire year, students appreciated the response to their preferences, behaved with decorum, and earned better grades than previously.

Administrative support for the program is strong and teachers are encouraged to experiment with those learning style strategies that make sense to them. There are plans for Kelley to coordinate further faculty involvement because, to date, he has been an inspiration to his colleagues. In 1987-1988 the number of teachers voluntarily experimenting with learning styles techniques has doubled, and counseling strategies have also incorporated the concept.

Kudos

This *Curriculum Report* was prepared by Rita Dunn, professor, Division of Administrative and Instructional Leadership and director, Center for the Study of Learning and Teaching Styles, and Shirley A. Griggs, professor, Division of Human Services and Counseling, St. John's University, New York.

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